

## REMARKS

Claims 1-5, 7-14, 16-18, 23 and 24 are pending in the present Application.

Claims 1-5, 7-14, 16-18 and 23-24 have been rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 10-27 of copending Application No. 09/976,421, now U.S. Patent No. 6,679,983. Applicants submit herewith a terminal disclaimer and respectfully request that this rejection be withdrawn.

Claims 1-5, 7-14, 16-18 and 23-24 have been rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-20 of U.S. Patent No. 6,531,046. Applicants submit herewith a terminal disclaimer and respectfully request that this rejection be withdrawn.

Claims 1-5, 7-14, 16-18 and 23-24 have been rejected under 35 USC § 102(e) as being anticipated by Merricks (U.S. Publication No. 2002/0088713, now U.S. Patent No. 6,660,153). Applicants respectfully traverse.

The Merricks et al. patent names as co-inventors David Merricks, Denis Morrissey, Martin W. Bayes, Mark Lefebvre, James G. Shelnut and Donald E. Storjohann and is assigned to Shipley Company, L.L.C., the same assignee as in the present Application. The present Application names as co-inventors Denis Morrissey, who is a co-inventor of the '153 patent, Jeffrey M. Calvert and Robert D. Mikkola.

Submitted herewith is a declaration of Denis Morrissey, a co-inventor of both the '153 patent and the present Application. In his declaration, Mr. Morrissey states that the presently claimed invention was invented by himself, Jeffrey M. Calvert and Robert D. Mikkola. The other co-inventors of the '153 patent (Drs. Merricks and Bayes, Mr. Lefebvre, Dr. Shelnut and Mr. Storjohann) contributed to the '153 patent in areas other than the use of two or more acids in a copper electroplating bath for repairing seed layers, such as in the area of using a copper electroplating bath comprising copper ions in an amount of up to 10 g/L. Thus, the mixture of two or more acids where at least one is a (C<sub>3</sub>-C<sub>6</sub>)alkylsulfonic acid disclosed in the '153 patent

was not invented by David Merricks, Martin W. Bayes, Mark Lefebvre, James G. Shelnut and Donald E. Storjohann.

Accordingly, Applicants submit that the '153 patent is disqualified as prior art under 35 USC § 102(e) as it is not an invention "by another". See MPEP § 2135. Applicants respectfully request that this rejection be withdrawn.

Claims 1-5, 7-14, 16-18 and 23-24 have been rejected under 35 USC § 103(a) as being obvious over Mikkola et al. (U.S. Publication No. 2002/0043468, now U.S Patent No. 6,682,642). Applicants respectfully traverse.

The '642 patent is assigned to Shipley Company, L.L.C., the same assignee as in the present Application. The '642 patent and the presently claimed invention were, at the time the invention was made, under an obligation of assignment to the same entity, Shipley Company, L.L.C. In support of this, Applicants provide herewith copies of the assignment documents in the '642 patent and the present Application (Exhibits A and B) showing both inventions assigned to Shipley Company, L.L.C. Applicants respectfully request that this rejection be withdrawn.

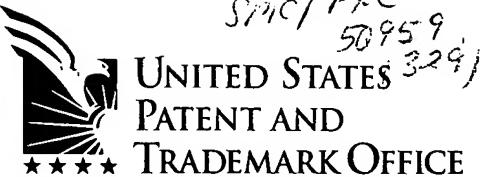
Favorable reconsideration in the form of a notice of allowance is respectfully requested.

Respectfully submitted,



S. Matthew Cairns, Ph.D.  
Attorney for Applicant  
Registration No. 42,378

c/o EDWARDS & ANGELL LLP  
P.O. Box 55874  
Boston, MA 02205  
Date:



SAC/KL  
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UNITED STATES  
PATENT AND  
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FEBRUARY 02, 2002

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EDWARDS & ANGELL, LLP  
PETER F. CORLESS  
P.O. BOX 9169  
BOSTON, MA 02209

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RECORDATION DATE: 11/02/2001

REEL/FRAME: 012356/0403

NUMBER OF PAGES: 5

BRIEF: ASSIGNMENT OF ASSIGNEE'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNEE:

MORRISSEY, DENIS

DOC DATE: 10/18/2001

ASSIGNEE:

CALVERT, JEFFREY M.

DOC DATE: 10/18/2001

ASSIGNEE:

MIKKOLA, ROBERT D.

DOC DATE: 10/18/2001

ASSIGNEE:

SHIPLEY COMPANY, L.L.C.  
455 FOREST STREET  
MARLBOROUGH, MASSACHUSETTS 01752

SERIAL NUMBER: 10003151

FILING DATE: 11/02/2001

PATENT NUMBER:

ISSUE DATE:

012356/0403 PAGE 2

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## 1. Name of conveying party(ies):

Denis MORRISSEY  
 Jeffrey M. CALVERT  
 Robert D. MIKKOLA

MRD  
 11.02.01

Additional names(s) of conveying party(ies)

 Yes  No

## 3. Nature of conveyance:

|  |   |
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| <input checked="" type="checkbox"/> Assignment | <input type="checkbox"/> Merger         |
| <input type="checkbox"/> Security Agreement    | <input type="checkbox"/> Change of Name |
| <input type="checkbox"/> Other _____           |   |

Execution Date: October 18, 2001

## 2. Name and address of receiving party(ies):

Name: Shipley Company, L.L.C.Address: 455 Forest StreetCity: Marlborough State/Prov.: MACountry: U.S.A. ZIP: 01752Additional name(s) & address(es)  Yes  No

## 4. Application number(s) or registration numbers(s):

If this document is being filed together with a new application, the execution date of the application is: 10/18/01Patent Application No. 10003151Filing date 10/09/01

## B. Patent No.(s)

 Yes  No

## 5. Name and address of party to whom correspondence concerning document should be mailed:

6. Total number of applications and patents involved: 1Name: Peter F. Corless7. Total fee (37 CFR 3.41): .....\$ 40.00Registration No. 33,860

Enclosed - Any excess or insufficiency should be credited or debited to deposit account

Address: EDWARDS & ANGELL, LLP

Authorized to be charged to deposit account

Dike, Bronstein, Roberts &amp; Cushman, IP Group

## 8. Deposit account number:

P.O. Box 9169

04-1105City: Boston State/Prov.: MA

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## 9. Statement and signature.

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

S. Matthew Cairns
11/02/01

Name of Person Signing

Signature

Date

**ASSIGNMENT**

WHEREAS, I, Denis MORRISSEY of Huntington, New York, Jeffrey M. CALVERT of Acton, Massachusetts and I, Robert D. MIKKOLA of Grafton, Massachusetts, (hereinafter referred to as "Assignors"), have invented certain new and useful improvements in "SEED LAYER REPAIR", for which an application for United States Letters Patent with the same title shall be filed herewith receiving Serial No. \_\_\_\_\_, and a filing date of \_\_\_\_\_, and which application corresponds to and claims priority of U.S. Provisional Application Serial No. 60/245,308, filed November 2, 2000; and

WHEREAS, Shipley Company, L.L.C., located at 455 Forest Street, Marlborough, Massachusetts 01752, (hereinafter referred to as the "Assignee"), is desirous of acquiring the entire right, title and interest in and to the same invention, and in and to the said application, and any Letters Patent that may issue thereon;

NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN, be it known that for the above consideration, the Assignors have assigned and transferred, and do hereby assign and transfer to the Assignee, its successors and assigns, their entire right, title and interest for the United States in and to the said invention and in and to the said application and all patents which may be granted therefor, and all divisions, reissues, substitutions, continuations, in whole or in part, re-examinations, and extensions thereof, and all applications claiming priority therefrom; and the Assignors hereby authorize and request the Commissioner of Patents and Trademarks to issue all patents for said invention, or patents resulting therefrom, insofar as their interest is concerned, to the Assignee; to have and to hold for the sole and exclusive use and benefit of the Assignee, its successors and assigns, to the full end of the term or terms for which any and all of said Letters Patent for said invention may issue, to the same extent as the Assignors would hold and enjoy if this Assignment had not been made.

The Assignors also have assigned and transferred, and do hereby assign and transfer to the Assignee, its successors and assigns, their entire right, title and interest in and to the invention disclosed in said application, in all countries of the world foreign to the United States, including the right to file applications and obtain patents for said invention in its own name in said countries and including all rights of priority in said countries under the terms of any applicable international convention; to have and to hold for the sole and exclusive use and benefit of the Assignee, its successors and assigns, to the full end of the term or terms for which any and all of said Letters Patent for said invention may issue, to the same extent as the Assignors would hold and enjoy if this Assignment had not been made.

The Assignors further agree to execute any and all patent applications, assignments, affidavits, and any other papers in connection therewith necessary to perfect such patent rights, and also agree, at the request of the Assignee, to testify in any legal proceedings, sign all lawful papers, make all lawful oaths, and generally do everything possible to aid said Assignee, its successors and assigns, to obtain, maintain and enforce patent protection for said invention in all countries.

The Assignors also hereby grant the law firm of EDWARDS & ANGELL, LLP, Dike, Bronstein, Roberts & Cushman, IP Group, the power to insert on this Assignment any further identification which may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

IN WITNESS WHEREOF, the Assignors have caused this Assignment to be executed.

Dated this \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_.

Denis MORRISSEY

Dated this 18<sup>th</sup> day of October, 2001.

Jeffrey M. CALVERT

Dated this 18 day of October, 2001.

Robert D. Mikkola  
Robert D. MIKKOLA

Attorney Docket No. 50959  
Page 1 of 2

ASSIGNMENT

WHEREAS, I, Denis MORRISSEY of Huntington, New York, Jeffrey M. CALVERT of Acton, Massachusetts and I, Robert D. MIKKOLA of Grafton, Massachusetts, (hereinafter referred to as "Assignors"), have invented certain new and useful improvements in "SEED LAYER REPAIR", for which an application for United States Letters Patent with the same title shall be filed herewith receiving Serial No. \_\_\_\_\_, and a filing date of \_\_\_\_\_, and which application corresponds to and claims priority of U.S. Provisional Application Serial No. 60/245,308, filed November 2, 2000; and

WHEREAS, Shipley Company, L.L.C., located at 455 Forest Street, Marlborough, Massachusetts 01752, (hereinafter referred to as the "Assignee"), is desirous of acquiring the entire right, title and interest in and to the same invention, and in and to the said application, and any Letters Patent that may issue thereon;

NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN, be it known that for the above consideration, the Assignors have assigned and transferred, and do hereby assign and transfer to the Assignee, its successors and assigns, their entire right, title and interest for the United States in and to the said invention and in and to the said application and all patents which may be granted therefor, and all divisions, reissues, substitutions, continuations, in whole or in part, re-examinations, and extensions therof, and all applications claiming priority therefrom; and the Assignors hereby authorize and request the Commissioner of Patents and Trademarks to issue all patents for said invention, or patents resulting therefrom, insofar as their interest is concerned, to the Assignee; to have and to hold for the sole and exclusive use and benefit of the Assignee, its successors and assigns, to the full end of the term or terms for which any and all of said Letters Patent for said invention may issue, to the same extent as the Assignors would hold and enjoy if this Assignment had not been made.

The Assignors also have assigned and transferred, and do hereby assign and transfer to the Assignee, its successors and assigns, their entire right, title and interest in and to the invention disclosed in said application, in all countries of the world foreign to the United States, including the right to file applications and obtain patents for said invention in its own name in said countries and including all rights of priority in said countries under the terms of any applicable international convention; to have and to hold for the sole and exclusive use and benefit of the Assignee, its successors and assigns, to the full end of the term or terms for which any and all of said Letters Patent for said invention may issue, to the same extent as the Assignors would hold and enjoy if this Assignment had not been made.

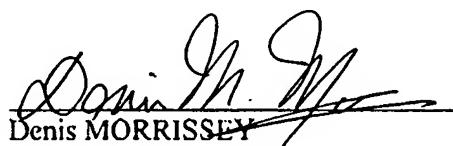
The Assignors further agree to execute any and all patent applications, assignments, affidavits, and any other papers in connection therewith necessary to perfect such patent rights, and also agree, at the request of the Assignee, to testify in any legal proceedings, sign all lawful papers, make all lawful oaths, and generally do everything possible to aid said Assignee, its successors and assigns, to obtain, maintain and enforce patent protection for said invention in all countries.

Docket No. 50959  
Page 2 of 2

The Assignors also hereby grant the law firm of EDWARDS & ANGELL, LLP, Dike, Bronstein, Roberts & Cushman, IP Group, the power to insert on this Assignment any further identification which may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

IN WITNESS WHEREOF, the Assignors have caused this Assignment to be executed.

Dated this 18 day of OCTOBER, 2001.

  
Denis MORRISSEY

Dated this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_.

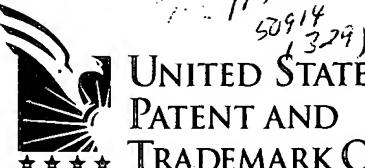
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Jeffrey M. CALVERT

Dated this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_.

---

Robert D. MIKKOLA



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DECEMBER 27, 2001

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EDWARDS & ANGELL, LLP

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NUMBER OF PAGES: 3

BRIEF: ASSIGNMENT OF ASSIGNEE'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNEE:

MIKKOLA, ROBERT D.

DOC DATE: 10/12/2001

ASSIGNEE:

CALVERT, JEFFREY M.

DOC DATE: 10/12/2001

ASSIGNEE:

SHIPLEY COMPANY, L.L.C.  
455 FOREST STREET  
MARLBOROUGH, MASSACHUSETTS 01752

SERIAL NUMBER: 09976422  
PATENT NUMBER:

FILING DATE: 10/12/2001  
ISSUE DATE:

TARA WASHINGTON, EXAMINER  
ASSIGNMENT DIVISION  
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**Robert D. MIKKOLA**  
**Jeffrey M. CALVERT**

10-12-01

09976422

2. Name and address of receiving party(ies):

Name: Shipley Company, L.L.C.Address: 455 Forest Street

Additional names(s) of conveying party(ies)

 Yes  No

3. Nature of conveyance:

Assignment       Merger  
 Security Agreement       Change of Name  
 Other \_\_\_\_\_

Execution Date: October 12, 2001Additional name(s) & address(es)  Yes  No

4. Application number(s) or registration numbers(s):

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Patent Application No.      Filing date

10/16/2001 STEUMEL1 00000041 09976422

04 FC:581

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B. Patent No.(s)

Additional numbers

 Yes  No

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Name: Peter F. CorlessRegistration No. 33,860Address: EDWARDS & ANGELL, LLPDike, Bronstein, Roberts & Cushman, IP GroupP.O. Box 9169City: Boston State/Prov.: MACountry: U.S.A. ZIP: 022096. Total number of applications and patents involved: 17. Total fee (37 CFR 3.41): ..... \$ 40.00 Enclosed - Any excess or insufficiency should be credited or debited to deposit account Authorized to be charged to deposit account

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S. Matthew Cairns

Name of Person Signing

Signature

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JC879 U.S. 09/976422  
10/12/01

Attorney Docket N . 50914  
Page 1 of 2

ASSIGNMENT

WHEREAS, I, Robert D. MIKKOLA of Grafton, Massachusetts and I, Jeffrey M. CALVERT of Acton, Massachusetts, (hereinafter referred to as "Assignors"), have invented certain new and useful improvements in "SEED REPAIR AND ELECTROPLATING BATH", for which an application for United States Letters Patent with the same title shall be filed herewith receiving Serial No. \_\_\_\_\_, and a filing date of \_\_\_\_\_, which application corresponds to and claims priority of U.S. Provisional Application Serial No. 60/240,365, filed October 13, 2000; and

WHEREAS, Shipley Company, L.L.C., located at 455 Forest Street, Marlborough, Massachusetts 01752, (hereinafter referred to as the "Assignee"), is desirous of acquiring the entire right, title and interest in and to the same invention, and in and to the said application, and any Letters Patent that may issue thereon;

NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN, be it known that for the above consideration, the Assignors have assigned and transferred, and do hereby assign and transfer to the Assignee, its successors and assigns, their entire right, title and interest for the United States in and to the said invention and in and to the said application and all patents which may be granted therefor, and all divisions, reissues, substitutions, continuations, in whole or in part, re-examinations, and extensions thereof, and all applications claiming priority therefrom; and the Assignors hereby authorize and request the Commissioner of Patents and Trademarks to issue all patents for said invention, or patents resulting therefrom, insofar as their interest is concerned, to the Assignee; to have and to hold for the sole and exclusive use and benefit of the Assignee, its successors and assigns, to the full end of the term or terms for which any and all of said Letters Patent for said invention may issue, to the same extent as the Assignors would hold and enjoy if this Assignment had not been made.

The Assignors also have assigned and transferred, and do hereby assign and transfer to the Assignee, its successors and assigns, their entire right, title and interest in and to the invention disclosed in said application, in all countries of the world foreign to the United States, including the right to file applications and obtain patents for said invention in its own name in said countries and including all rights of priority in said countries under the terms of any applicable international convention; to have and to hold for the sole and exclusive use and benefit of the Assignee, its successors and assigns, to the full end of the term or terms for which any and all of said Letters Patent for said invention may issue, to the same extent as the Assignors would hold and enjoy if this Assignment had not been made.

The Assignors further agree to execute any and all patent applications, assignments, affidavits, and any other papers in connection therewith necessary to perfect such patent rights, and also agree, at the request of the Assignee, to testify in any legal proceedings, sign all lawful papers, make all lawful oaths, and generally do everything possible to aid said Assignee, its successors and assigns, to obtain, maintain and enforce patent protection for said invention in all countries.

Docket No. S0914  
Page 2 of 2

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IN WITNESS WHEREOF, the Assignors have caused this Assignment to be executed.

Dated this 12<sup>th</sup> day of October, 2001

Robert D. Mikkola  
Robert D. MIKKOLA

Dated this 11<sup>th</sup> day of October, 2001.

Jeffrey M. Calvert  
Jeffrey M. CALVERT